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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,474	04/15/2004	Wolfgang Schmidbauer	608.0011USX	8127

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EXAMINER

HOANG, TU BA

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/825,474	SCHMIDBAUER ET AL.	
	Examiner	Art Unit	
	Tu Ba Hoang	3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment filed 02/18/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>02/18/05</u> | 6) <input type="checkbox"/> Other: _____ |

Response to Amendments/Arguments

Applicant's amendment/arguments filed 02/18/05 have been fully considered but they are not persuasive as for the following reason:

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 26-27 as newly added are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 26 recites the limitation "said first inductive heating coil" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15-18, 22-25, and newly added claim 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Sundberg (US 3,875,322). Sundberg shows an induction skull channel furnace (Figures 1 & 2) for melting and refining oxides including metal ores (column 1, line 22), in which it has an open top as shown in Figure 1, a first inductive heating coil 4 is positioned with respect to the channel defined by side wall 2 and flat bottom wall 1 so that the open top remains open and upon activation of the coil 4, the melt flows in a horizontal direction (column 1, lines 25-26, i.e., extended horizontal dimensions and restricted vertical dimensions), a second inductive heating coil 5 is positioned with respect to the channel so that the open top also remains open and is spaced from the first coil 4 by a space 4a, and an alternate heating source in the form of an electrical heating unit or coil 3 is positioned with respect to the channel in the open top between the first and second heating coils 4,5, wherein the open top is free of the first and second heating coils 4,5.

Claims 15-16, 22-23, and newly added claims 26-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Binder et al (US 5,268,925). Binder et al shows an induction skull channel furnace 3 for melting and refining ceramic material such as glass (column 2, line 32), in which it has an open top as shown in Figure 1, a first inductive heating coil 1 is positioned with respect to the channel so that the open top remains open and upon activation of the coil 1, the melt flows in a horizontal direction, and a second cooled bottom coil 5a is positioned with respect to the channel so that the

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open top also remains open and is spaced from the first coil 1, wherein the open top is free of the first and second heating coils 4,5 and the skull channel has a metal-cooled cage having a plurality of water-cooled pipes being surrounded by solidified melt (column 4, lines 62-65, i.e., half tubes welded onto the coil or a double walled jacket).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundberg (US 3,875,322) as applied to claims 15-18 and 22-25 in view of Stenzel (US 5,109,389). Sundberg shows substantially all of the claimed features as set forth above except for the alternate heating source is a burner heating unit positioned at the open top of the channel or crucible and has a gas/air or gas/oxygen ratio that produces a reducing atmosphere. It is noted that the use of such alternate heating source in the form of a gas burner positioned at the top of the channel or crucible is well known in the art, as evidence, Stenzel shows a plasma or gas burner 48 used as an additional heating source (column 12, lines 3-7) situated at the open top of the crucible (shown in Figure 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Sundberg the burner taught by Stenzel in order to produce a reducing atmosphere by burning reactive gas between the additional heating source or burner and the surface of the molten material as well as to destroy undesirable substances (column 12, lines 8-14).

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Byers (US 2,252,756), Kolberg et al (US 6,848,275), and Romer et al (US 2005/0039492).

REMARK

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., Sundberg provides for stirring the melt in planes perpendicular to the longitudinal axis of the hearth causing flow in a vertical direction and Stenzel does not disclose or suggest that the glass melt flows in a horizontal direction) The Examiner's position is that in both Sundberg and Binder et al references, the glass melts at least flow in a "horizontal direction" or horizontal axis of the crucible channel (i.e., the skull channel or the hearth) as the heating coils are activated (i.e., natural occurrence, as glass melted, it flows) as well as when the crucible is rotated or tilted. It is noted that, perhaps the horizontal direction or axis of the crucibles of Binder et al or Sundberg is not the same the horizontal direction as Applicant intended for. Such horizontal direction shall be redefined with respect to the heating coil axis and other structures to define over the prior art.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

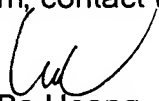
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu Ba Hoang whose telephone number is (571) 272-4780. The examiner can normally be reached on Mon-fri from 8:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (571) 272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tu Ba Hoang
Primary Examiner
Art Unit 3742

April 16, 2005